

## REMARKS

Applicants respectfully request reconsideration and allowance of all of the pending claims.

### I. Status of the Claims

Upon entry of this Amendment A, claims 1-63 remain pending. Claims 39-63 have been withdrawn from consideration. Accordingly, claims 1-38 are presently under examination.

### II. Elections/Restrictions

In response to the Restriction requirement, Applicants have identified claims 39-63 as withdrawn.

### III. Claim Rejections Under 35 U.S.C. §112

Reconsideration is requested of the rejection of claims 4-6 under 35 U.S.C. §112, second paragraph as being indefinite for use of the term "nylon," which the Office believes is a registered trademark.

In response to the present rejection, Applicants call the Office's attention the excerpt, attached as Exhibit A, from Polymer Chemistry An Introduction, 2nd Edition, by Malcolm P. Stevens (©1990). The excerpt is Table 13-1 at page 422. The excerpted table shows that the term "nylon" is commonly used in the art as a designation for a broad class of polyamides. For example, Nylon 6 is a commonly used term for polycaprolactam, and Nylon 6,6 is a commonly used term for poly(hexamethylene adipamide).

Additionally, Applicants call the Office's attention to the information provided in attached Exhibit B (from [http://heritage.dupont.com/touchpoints/tp\\_1935-2/depth.shtml](http://heritage.dupont.com/touchpoints/tp_1935-2/depth.shtml)). Notably, the third paragraph clearly states that DuPont did not register "nylon" as a trademark. Furthermore, the Trademark Electronic Search System (TESS) shows only one live "nylon" word mark, and that is in connection with "General feature magazines

and fashion magazines" (the results of search conducted January 26, 2007 are attached as Exhibit C).

In view of the foregoing, Applicants submit that the use of the term "nylon" in the rejected claims is not improper, because the meaning of the term "nylon" is well understood in the art, and/or because the term "nylon" is not a trademark in the art of polymers. Applicants further submit that the use of the term "nylon" distinctly describes the subject matter that Applicants regard as the invention. Accordingly, reconsideration of the present rejection is requested.

**IV. Claim Rejections Under 35 U.S.C. §102(b)**

**A. Claims 1, 2, 7, 8, 17-22 and 26-38 Over WO/0235618**

Reconsideration is requested of the rejection of claims 1, 2, 7, 8, 17-22 and 26-38 as being anticipated under 35 U.S.C. §102(b) by WO 02/35618. More specifically, reconsideration is requested of the Office's assertion that WO 02/35618 anticipates claim 1 because, in addition to disclosing the other components of the rechargeable electrochemical cell defined by claim 1, "[t]he flexible member may be made of nylon (see [0072]), which would **inherently** possess the characteristics recited in claim 1." (See the present Office action at page 3, first full paragraph. Emphasis added.)

Claim 1, from which all other pending claims directly or indirectly depend, is directed to a rechargeable electrochemical cell defining a positive and a negative terminal. In relevant part, the cell comprises:

(b) a switch assembly including:

- i. a flexible member comprising a material having a heat deflection temperature greater than 100 C at 264 PSI and a tensile strength greater than 75 Mpa, wherein the flexible member flexes from a first position towards a second position in response to internal cell pressure . . .

Notably, Applicants' rechargeable electrochemical cell is adapted to withstand temperature and pressure increases during fast charging. This goal is met, at least in part, by constructing a flexible member (e.g., a grommet) of the pressure sensitive switch from a heat stable material having the minimum heat deflection temperature and tensile strength recited in claim 1. (See, e.g., paragraphs [0155-56] of the published application, publication number 2004/0145344). Suitable materials include, for example, glass filled polyamides (e.g., nylon 6,6 and nylon 6,12), glass filled polyphthalamide, and non-glass filled aromatic polyamides.

The cited PCT application (WO 02/35618) discloses a rechargeable electrochemical cell, which may be equipped with an internal pressure-responsive switch comprising a flexible grommet adapted to change shape in response to changes in pressure in the interior of the battery. (See, e.g., paragraph [0068-76].) This application also discloses that

[t]he grommet . . . can be formed of any sufficiently flexible, nonconductive inert material that does not adversely impact the cell chemistry. Suitable materials include but are not limited to polypropylene, polyolefin and nylon and their equivalents."

(See [0072], and also [0097].)

The Examiner asserts that the cited PCT application qualifies as prior art under 35 U.S.C. §102(b), because U.S. Patent Application Serial No. 10/045,934, from which the present application claims priority, does not adequately support the subject matter of claim 1. Without commenting on the adequacy of the support provided for the subject matter of claim 1 of the present application in Application No. 10/045,934, Applicants submit that the subject matter of claim 1 is adequately supported by U.S. Provisional Patent Application Serial No. 60/421,624, from which the present application **also** claims priority. (See, e.g., paragraphs [00179-180] of the provisional application, as well as Figures 35A and 35B therein.) Although the PCT application published on May

2, 2002, the noted provisional application was filed October 25, 2002, which is less than 1 year after the PCT publication date.

However, Applicants additionally submit that, even assuming *arguendo* that the cited PCT application qualifies as prior art under one of the provisions of 35 U.S.C. §102, this application **does not** anticipate the subject matter of claim 1, or any claim depending therefrom. More specifically, Applicants respectfully disagree with the Office's assertion that "nylon" inherently possesses the required heat deflection temperature and tensile strength, as called for in claim 1. As clearly illustrated by Applicants in FIG. 28B, **not all nylons** possess a heat deflection temperature greater than 100 C at 264 PSI and a tensile strength greater than 75 Mpa. In fact, the present application clearly shows in FIG. 28B that neither nylon 6,6 (denoted by "o" in FIG. 28B) nor nylon 6,12 (denoted by "□" in FIG. 28B) meet the minimum heat deflection temperature or the tensile strength called for in claim 1, while glass filled forms of these two polymers do.

Applicants also point out that the Federal Circuit has stated the following in regard to inherency:

The fact that a certain result or characteristic **may** occur or be present in the prior art is **not sufficient to establish the inherency** of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). (Emphasis added.)

To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is **necessarily present** in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (Emphasis added.)

Inasmuch as the cited PCT application makes **no reference**, either explicitly or inherently, to a material having a heat deflection temperature greater than 100 C at 264 PSI and a tensile strength greater than 75 Mpa, Applicants submit that the present

rejection is improper. WO 02/35618 does not discuss any particular requirements for its "nylon" beyond the suggestion that it be "any sufficiently flexible, nonconductive inert material." (See [00072].) Furthermore, a material meeting these three requirements does not necessarily meet the claimed minimum heat deflection temperature and tensile strength. Applicants have demonstrated as much in their FIG. 28B. Accordingly, the claimed heat deflection temperature and tensile strength are **not** inherent in the "nylon" referenced in the cited PCT application, because that application does not "make clear that" the claimed properties are "necessarily present."

In view of the foregoing, Applicants submit that claim 1 is not anticipated by WO 02/35618. Reconsideration of this rejection is therefore requested.

Claims 2, 7, 8, 17-22 and 26-38 depend from claim 1 and are therefore submitted as novel for the same reasons as claim 1 and by virtue of the additional requirements therein. For example, claim 7 additionally requires that the flexible member have less than 50% elongation at break. Claim 7 is patentable over WO 02/35618 since that reference does not disclose the recited property, and the property is further not inherently possessed by the "any sufficiently flexible, nonconductive inert material." (See, e.g., FIG. 28A which illustrates that nylon 6,6 (○ in FIG. 28A) has a greater % elongation at break than required by claim 7.) Claim 8 requires a greater minimum heat deflection temperature than claim 1. Claim 8 is therefore patentable over WO 02/35618 since this reference does not discuss the claimed minimum heat deflection temperature, much less "make clear" that the claimed minimum heat deflection temperature is "necessarily present" in nylons.

#### **B. Claims 1, 2, 7, 8 and 36-38 Over Bosben et al.**

Reconsideration is requested of the rejection of claims 1, 2, 7, 8 and 36-38 as being anticipated by Bosben et al. (U.S. Patent No. 3,617,386).

The relevant requirements of claim 1 are set out above in Part IV.A. of this Amendment and, in the interest of brevity, will not be repeated here.

Bosben et al. disclose a sealed electric battery cell including a flexible, non-metallic diaphragm. The flexible diaphragm "is made of a material readily permeable to hydrogen, but not readily permeable to water vapor . . ." Bosben et al. cite nylon as an exemplary material. (See, e.g., Col. 3, lines 9-11.)

The Office asserts that Bosben et al. anticipate claim 1 because, in addition to disclosing the other components of the rechargeable electrochemical cell defined by claim 1, "[t]he flexible member may be made of nylon . . ., which would **inherently** possess the characteristics recited in claim 1." (See the present Office action at page 4, first full sentence. Emphasis added.)

For the reasons set forth above in Part IV.A., Applicants respectfully disagree with the Office's assertion that nylon inherently possesses the required heat deflection temperature and tensile strength. Briefly, as previously noted, Applicants have shown that not all nylons meet the claimed properties. Moreover, Bosben et al. do not "make clear that" the claimed properties are "necessarily present." Bosben et al. merely require that their nylon is "is made of a material readily permeable to hydrogen, but not readily permeable to water vapor . . ." These requirements, however, do not define a material that **necessarily** possesses the claimed heat deflection temperature and tensile strength.

In view of the foregoing, Applicants submit that claim 1 is not anticipated by Bosben et al. Reconsideration of the rejection of claim 1 is therefore requested.

Claims 2, 7, 8 and 36-38 depend from claim 1 and are therefore submitted as patentable for the same reasons as claim 1, and by virtue of the additional requirements therein.

## **V. Claim Rejections Under 35 U.S.C. §103(a)**

### **A. Claims 3-6, 10, 11-16 and 23-25 Over WO/0235618**

Reconsideration is requested of the rejection of claims 3-6, 10, 11-16 and 23-25 as being obvious in view of WO 02/35618.

To begin, it is to be noted that, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. And third, the prior art reference must disclose or suggest all of the claim elements. MPEP §2142.

In the instant case, Applicants submit the inventions of claim 1, from which claims 3-6, 10, 11-16 and 23-25 are not obvious in view of WO 02/35618 because WO 02/35618 **fail to disclose or suggest all of the elements of claim 1**. Specifically, for the reasons set forth above in Part IV.A. of this Amendment, WO 02/35618 fails to disclose or suggest a switch assembly that includes a material having a heat deflection temperature greater than 100°C at 264 PSI and a tensile strength greater than 75 Mpa. Additionally, Applicants submit that, inasmuch as **no reference** is made in WO 02/35618 to a material having the properties recited in claim 1, there is simply **no motivation** to modify the disclosure provided therein in order to obtain such a material, for use in a switch assembly.

Accordingly, claims 2-6, 10, 11-16 and 23-25 are submitted as nonobvious in view of, and therefore patentable over, WO 02/035618, for the reasons set forth with respect to claim 1, from which these claims depend, as well as for the additional limitations present in these claims.

#### **B. Claims 3-6 and 9 Over WO/0235618 and Schubert et al.**

Reconsideration is requested of the rejection of claims 3-6 and 9 as being obvious in view of the combination of WO 02/35618 and Schubert et al. (U.S. Published Patent Application No. 2005/0079404).

Applicants submit that the Schubert et al. reference does not qualify as prior art against Applicants' claims. More specifically, as noted above in Part IV.A. of this Amendment, the present application claims priority from U.S. Provisional Patent Application Serial No. 60/421,624 (filed **October 25, 2002**). Claim 1, as well as claims

3-6 and 9 which depend therefrom, find support in this provisional application in, for example, paragraphs [00179-180], as well as in FIGS. 35A and 35B (which are essentially identical to FIGS. 28A and 28B, respectively, of the present application). In contrast to the filing date of this provisional application, the filing date of Schubert et al. is almost one year later (i.e., **October 9, 2003**).

Inasmuch as the filing date of the provisional application, from which the present application claims priority, precedes Schubert et al.'s filing date, Applicants submit that Schubert et al. is not prior art against Applicants' claims, and all rejections based on the Schubert et al. reference should be withdrawn.

Additionally, for the reasons set forth above (in Part IV.A., and/or V.A., of this Amendment), Applicants submit WO 02/35618 fails to disclose or suggest each and every element of the subject matter of claim 1, from which claims 3-6 and 9 depend. Accordingly, Applicants submit claims 3-6 and 9 are nonobvious in view of, and therefore patentable over, WO 02/35618.

## VI. Double Patenting

For the reasons set forth above (in Part V.A., of this Amendment), Applicants submit Schubert et al. is not prior art against Applicants' claims. In view thereof, Applicants respectfully request reconsideration of the rejection of claims 1-38 under the non-statutory obviousness-type double patenting, as being unpatentable over the combination of claims 1-75 of U.S. Patent No. 6,878,481 and Schubert et al.

**CONCLUSION**

In view of the foregoing, Applicants respectfully request allowance of all the pending claims.

The Commissioner is also hereby authorized to credit any over-payments or charge any under-payments to Deposit Account No. 19-1345.

Respectfully submitted,

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